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The wealth of distinguished doctors:  
Supplementary information

- i) *Adjusting monetary values for changes across time.*
- ii) *The criteria for distinction in nineteenth century doctors.*

## *i) Adjusting monetary values for changes across time.*

Although it seems relatively simple to adjust monetary values across time, that is far from the case in practice. The commonest method, of adjusting against a Retail Price Index, is problematic in a host of ways, not least that products are not the same across time (a car bought now has many technical features which would not have been present in a car bought 50 years ago), and neither are needs the same (candles represented a large and essential proportion of household expenditure in the 19<sup>th</sup> century, but are now bought mostly for decoration), nor opportunities the same (to discuss the relative cost of air-travel makes no sense in a 19<sup>th</sup> century context) [1].

The differences between methods of adjustment can be seen by comparing two of them, adjustment against Retail Price Index (RPI), and adjustment against average earnings. Figure S1 shows the summary data of Routh [2] for four different occupational classes from 1913 to 1978, expressed in three different ways. Figure S1a shows the unadjusted (raw) average annual earnings of the groups, and it is clear that salaries in all groups have risen substantially and continually, with the differential between the highest and lowest becoming smaller over time. When adjusted for purchasing power on the basis of the RPI (figure S1b), the same groups also show a rise across time, although proportionately it is far smaller than for the actual monetary values in figure S1a; nevertheless it is clear that the purchasing power of all occupational groups rose from 1911 to 1978, with differentials once more becoming smaller. Finally, the values in adjusted against average earnings in figure S1c show a very different picture. The average earnings of skilled and unskilled manual workers, who form a large proportion of the workforce and hence dominate the calculation of the average wage, remain relatively constant with adjustment for average earnings. However the earnings of professionals on such a basis fell between 1911 and 1978, reflecting reduced wage differentials.

The effect of the different methods of adjustment on salaries of medical practitioners can be seen in figure S2, which is necessarily on a somewhat smaller set of data points, but for the period 1911 to 1955 has the unusual advantage of including quartiles and the upper decile, giving a sense of the dispersion of incomes. Such data are not available after 1955, but for comparison purposes, a ‘typical’ GP salary for 2002 (see [www.pssru.ac.uk/pdf/uc2004/uc2004\\_s09.pdf](http://www.pssru.ac.uk/pdf/uc2004/uc2004_s09.pdf)) has been included and plotted at the median. Figure S2a (which is the same as figure 7 in the main paper) shows that salaries adjusted for RPI also rose over the same time period. Adjusting salaries for average earnings (figure S2b) shows a rather different picture, with the median salary remaining relatively constant, but the lower quartile rising, and the upper quartile and particularly the upper decile falling over the period 1911 to 1955. The salaries of doctors became more homogenous (less dispersed) during the early twentieth century, and it is unlikely that that effect was reversed in the later twentieth century. The wealth of non-hospital doctors has also been included in figures S2a and S2b for comparative purposes.

Choosing an appropriate method of adjustment for comparing the wealth of doctors is not straightforward. The entire population has become better off relative to the RPI, with most people having substantially greater purchasing power than in the 19<sup>th</sup> century. Of necessity, most people cannot have become relatively richer over the same time period, because incomes on such a basis are adjusted for the average. For assessing differential wealth and differential incomes, adjustment probably makes most sense in terms of average

earnings, both because, as Officer puts it, “Average earnings are a logical measure for computing relative value of wages, salaries, or other income or wealth.” [3], and because, as Sir William Petty, the 17<sup>th</sup> century philosopher, said, “people [are] not so much interested in their absolute incomes as in their income relative to other people, for [it is] on this that their station in society depend[s]” [2]. The main paper therefore compares the wealth of doctors on the basis of adjustment for average earnings. The key analyses and figures will, however, also be reported here on the basis of RPI adjustment, for the purposes of comparison.

### *b) Comparison between different professions using average earnings.*

Figure S3 shows the equivalent figure to that of figure 6 in the main paper, but adjusted on the basis of average earnings, rather than RPI.

### *ii) The criteria for distinction in nineteenth century doctors.*

An important question concerns whether the doctors included in the ODNB differ in their criteria for distinction from those included at the end of the 20<sup>th</sup> century. In particular, as it has been put in an editorial comment, “Our hunch would be that in the mid-nineteenth century it was mainly ‘society’ doctors and surgeons who got in; now it would be worthy medical academics pioneering new treatments or concepts, who traditionally haven’t cared much for financial reward”. The question therefore is whether the richest doctors in the 19<sup>th</sup> century are marked by the absence of contributions to the academic, professional and intellectual practice of medicine.

This question has been assessed by considering the sample of all medically qualified individuals in the ODNB who died in the same decade as Sir James Paget (i.e. 1890 to 1899). They are shown in table S1, ranked from the least wealthy to the most wealthy.

At the top of the list is Sir William Jenner, Professor of Medicine at UCL, President of the Royal College of Physicians of London, and Physician to the Queen. However his medical achievements were substantial, and undoubtedly justify his inclusion in the ODNB, and also meant that he was much in demand as a physician in private practice. He wrote classical accounts of the treatment of rickets and of diphtheria, and differentiated typhus from typhoid.

Next in terms of wealth is Sir William Gull, whose medical achievements, amongst others, included the first descriptions of myxoedema and anorexia nervosa. Once again, diagnostic ability, coupled with the respect of peers, meant that he was far from being merely a society doctor. Gull and Jenner were in a class of their own in terms of their wealth, each leaving over £300,000.

At the top of the next group comes Sir Richard Quain, elected FRS for his work on fatty degeneration of the heart. Next in line is Sir William Bowman the ophthalmic surgeon and anatomist, whose name is attached to at least six anatomical structures, including Bowman’s capsule in the kidney. Quain and Bowman each left over £100,000.

Of the nine doctors leaving between £50,000 and £100,000, five were surgeons. Sir William Savory, who succeeded Paget at Bart’s, was President of the Royal College of Surgeons and published many research papers, Sir John Erichsen was also President of the Royal College

of Surgeons, and was particularly well known for his textbook of surgery. Sir George Murray was, according to the ODNB, “primarily, a scientist and a collector, particularly of items for the museum of anatomy and surgical pathology”. Sir Thomas Spencer Wells, the gynaecological surgeon, also President of the Royal College of Surgeons is, of course, still remembered for his eponymous forceps which were a part of his many pioneering contributions to the newly emerging techniques needed in surgery of the abdomen. Finally, the fifth surgeon was Sir James Paget, whose contributions to medicine were manifold and began the present account. Of the non-surgeons, Sir William Roberts, was elected FRS for his multifold contributions to physiology. John Sutherland was an expert on sanitary science and public health. Perhaps the only two member of this group who could possibly be considered as ‘society doctors’ are Walter Hayle Walshe (although his students may well have disagreed, and he undoubtedly had a wide and well-respected knowledge of medicine and pathology), and William Sharp, whom although medically qualified, practised mainly as a homoeopathist, and for whom the ODNB is relatively scathing about his achievements, and says that his, “...claim to recognition rests on his encouragement of the teaching of science in schools and for the establishment of local museums”.

Of the 13 doctors leaving between £20,000 and £50,000, most had substantial achievements. Sir John Bucknill was an influential and liberalising psychiatrist who was elected FRS; the surgeon Sir Prescott Gardner Hewett published many research papers and was also elected FRS; Charles Tidy was an influential toxicologist; Sir Richard Owen, the anatomist and palaeontologist was the first to describe the dinosaurs systematically; the surgeon John Wood was an “acknowledged master” in plastic surgery; Arthur Myers was the acknowledged British expert on hypnotism; Sir Morell Mackenzie was “the father of British laryngology”; Alfred Carpenter founded one of the first sewage farms; Michael Waistell Taylor was known as much as an antiquary as a physician; Henry Vandyke Carter was an influential epidemiologist of leprosy; John Marshall was an anatomist, elected FRS, and President of the General Medical Council; Henry Bellew was an army medical officer in India, a sanitary officer, a linguist and an explorer; and the psychiatrist Henry Monro was an ardent reformer of the asylums.

One could continue down the list, with John Langdon Down, the describer of Down’s syndrome the next one to be encountered.

There are few of these doctors who would only fit under the somewhat pejorative heading of ‘society doctor’. Many were extremely talented individuals, often with specialist skills, and in an age dominated by private practice it is hardly surprising that members of the public would flock to them for their diagnostic ability, and their therapeutic skills. However society did that because these doctors were successful. None really seems to fit the description of being purely and only a ‘society doctor’. It seems a real possibility that such individuals existed, but they are not obvious in this sample from the ODNB.

*The case of Trollope.* A final specific example will refer back to Anthony Trollope, the novelist, who has been cited elsewhere in the paper. In his last years he suffered increasingly from angina, and from what he called ‘asthma’ (but was probably pulmonary oedema secondary to heart failure), and in October 1882 he saw three doctors, two of whom were specialists: Sir Richard Quain, mentioned above, who was an undoubted specialist on cardiac pathology, and Sir William Jenner (also mentioned above) [4]. The third doctor, Trollope’s own doctor, William Murrell, is not included in the ODNB, and might at first sight therefore seem to be an example of the ‘society doctor’ who concentrated on tending and pampering the needs of the wealthy, and relying on the diagnostic and therapeutic skills of others.

However Murrell, in 1879, was assistant physician at the Royal Hospital for Diseases of the Chest in the City Road ([www.victorianlondon.org/dickens/dickens-d.htm](http://www.victorianlondon.org/dickens/dickens-d.htm)), and is perhaps best known nowadays for being the first to introduce nitroglycerin into clinical practice for treating angina [5]. In this case at least, therefore, it is clear that being a doctor to society was not the same as being a ‘society doctor’ in the pejorative sense.

*Doctors dying between 1990 and 1999.* The analysis of the previous section concentrated on the wealthiest of the doctors who died between 1890 and 1899. It would probably be invidious to attempt such an analysis for those doctors who died a century later, between 1990 and 1999, and are included in the ODNB. Nevertheless, table S2 provides a listing of those individuals for the convenience of the interested reader who might wish to work through them, comparing them with those who died a century earlier.

#### Reference List

1. Burnett J. A history of the cost of living. Harmondsworth: Penguin, 1969.
2. Routh G. Occupation and pay in Great Britain, 1906-1979. London: Macmillan, 1980.
3. Officer LH. What Is Its Relative Value in UK Pounds: Methods, Sources, and Examples. <http://eh.net/hmit/ukcompare/ukcompessay.htm>: 2005.
4. Glendinning V. Trollope. London: Pimlico, 2002.
5. Smith E, Hart FD. William Murrell, physician and practical therapist. *Brit.Med.J.* 1971;**3**:632-3.

*Figure captions.*

*Figure S1*

Income for Higher Professionals (●—●), Lower Professionals (■—■), Skilled workers (□ - - □) and Unskilled workers (○- - ○) . a) Raw income unadjusted for year; b) Income adjusted for Retail Price Index; c) Income adjusted for Average Earnings.

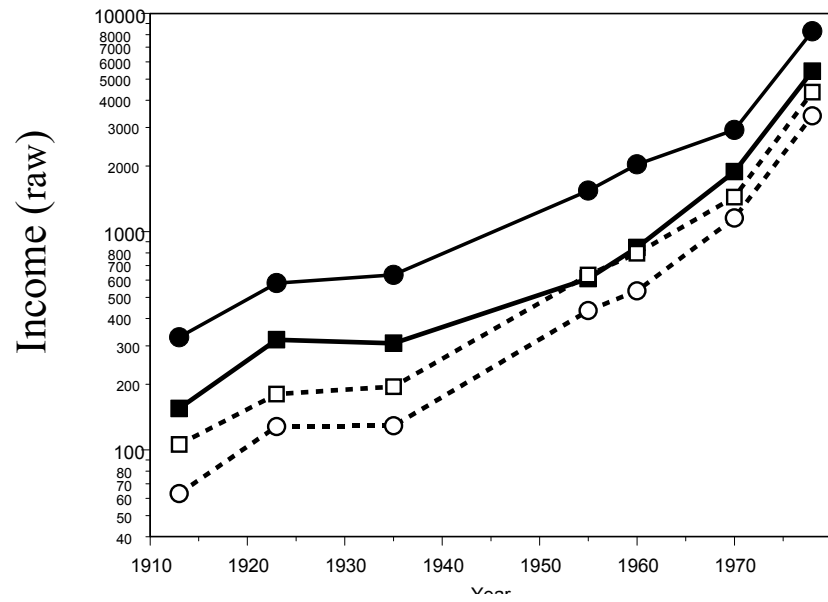
*Figure S2*

Wealth of medical practitioners in general (median (open squares), quartiles (open triangles), and upper decile (open circles)) for 1913/4, 1922/3, and 1955/6, and median wealth of distinguished doctors in the ODNB (hospital doctors (solid circles); other doctors (solid squares)). Distinguished doctors are plotted at approximate mid-point of working life. a) Adjusted for RPI, and b) Adjusted for average earnings.

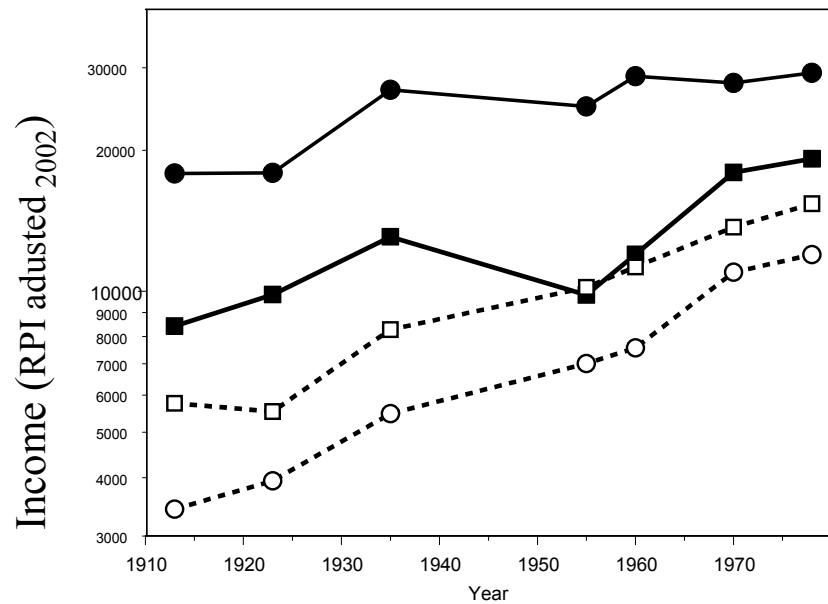
*Figure S3*

Wealth at death of distinguished individuals in ten different occupational groups, as categorised by the ODNB, for those dying between 1880-99 and 1980-2001. Error bars indicate  $\pm$  one standard error. , Adjusted for average earnings.

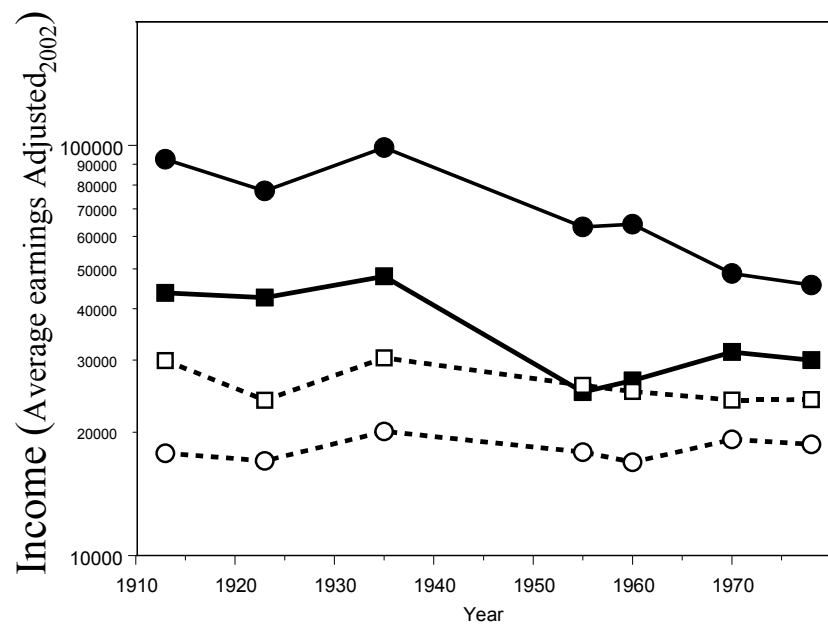
S1a



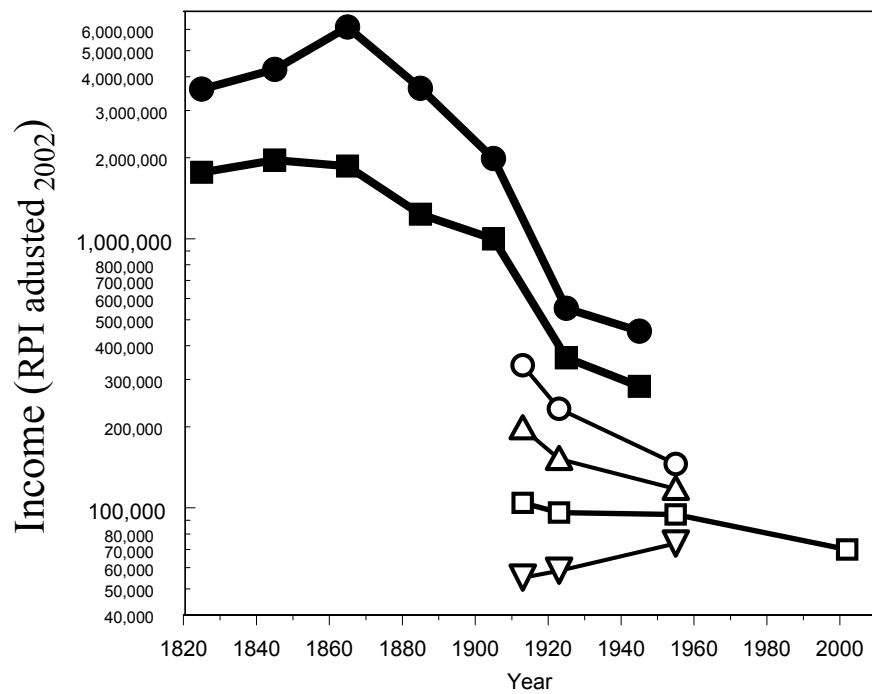
S1b



S1c



S2a



S2b

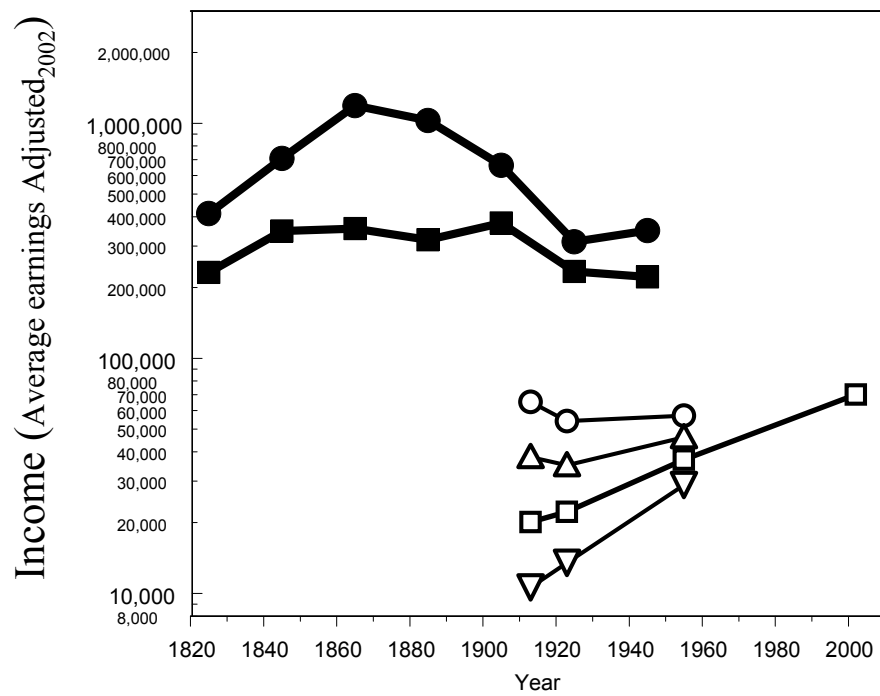




Figure S3

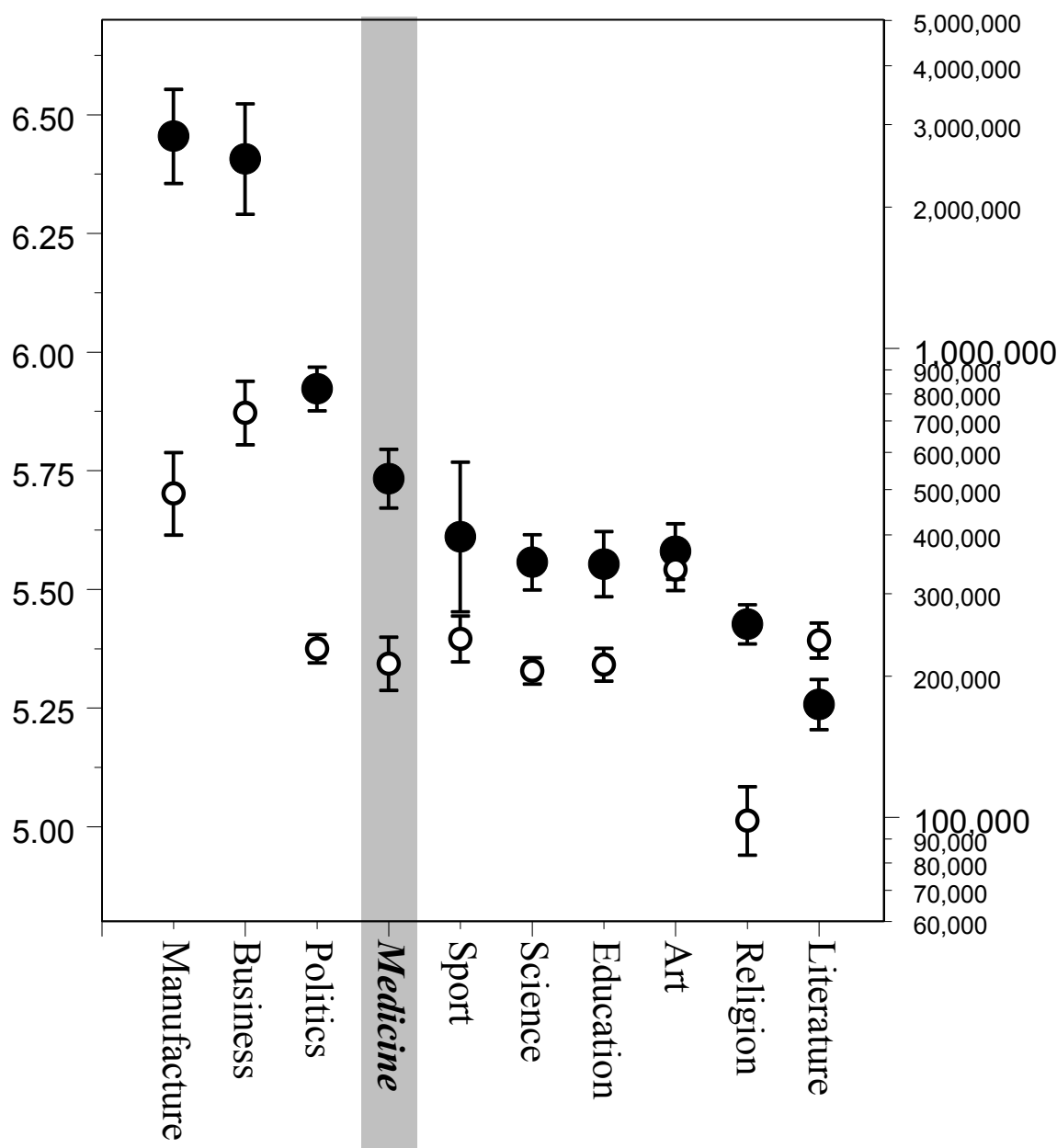


Table S1: Doctors in the ODNB who died between 1890 and 1899, ranked by wealth.

	<i>Birth</i>	<i>Death</i>	<i>Wealth at death (£)</i>	<i>ODNB short description</i>
Parke, Thomas Heazle	1857 -	1893	38	army medical officer and explorer in Africa
Hassall, Arthur Hill	1817 -	1894	55	physician and microscopist
Ralfs, John	1807 -	1890	96	surgeon and botanist
Hake, Thomas Gordon	1809 -	1895	123	physician and poet
Hogg, Jabez	1817 -	1899	243	ophthalmic surgeon
Chapman, John	1821 -	1894	337	publisher and physician
Price, William	1800 -	1893	400	physician self-styled archdruid and advocate of cremation
Jones, Charles Handfield	1819 -	1890	450	physician and histologist
Armstrong, Sir Alexander	1818 -	1899	478	naval medical officer
Clay, Charles	1801 -	1893	481	gynaecologist and surgeon
Cule 'Dr William Price of Llan	1801 -	1893	481	gynaecologist and surgeon
Nicholson, Brinsley	1824 -	1892	486	military surgeon and literary scholar
Shortland, Edward	1812 -	1893	506	physician and ethnographer in New Zealand
Jones, Thomas Wharton	1808 -	1891	876	physiologist and ophthalmic surgeon
Whitehouse, Edward Orange Wildman	1816 -	1890	1287	surgeon and electrician
Shaw, Alexander	1804 -	1890	1863	surgeon
Parker, William Kitchen	1823 -	1890	2095	comparative anatomist and zoologist
Aveling, James Hobson	1828 -	1892	2106	obstetric physician
Aitken, Sir William	1825 -	1892	2403	pathologist
Wallich, George Charles	1815 -	1899	3053	military surgeon and oceanographer
McCormick, Robert	1800 -	1890	3139	naval surgeon explorer and naturalist
Arlidge, John Thomas	1822 -	1899	3857	physician
Brookes, William Penny	1809 -	1895	3896	surgeon and campaigner for the revival of the Olympic games
Ross, James	1837 -	1892	4510	physician
Bentley, Robert	1821 -	1893	4988	botanist and pharmacognosist
Wilkinson, James John Garth	1812 -	1899	5302	Swedenborgian writer and homoeopath
Haughton, Samuel	1821 -	1897	5422	geologist and physiologist
Watson, John Forbes	1827 -	1892	5582	physician and expert on India
Kerr, Norman Shanks	1834 -	1899	5957	physician and temperance advocate
Buchanan, Sir George	1831 -	1895	7739	epidemiologist and civil servant
Hulke, John Whitaker	1830 -	1895	8018	surgeon
Little, William John	1810 -	1894	8173	orthopaedic surgeon
Thorne, Sir Richard Thorne	1841 -	1899	8379	physician and public health officer
Kingsley, George Henry	1826 -	1892	8618	physician and traveller
Munk, William	1816 -	1898	9056	physician and biographer
Tait, Robert Lawson	1845 -	1899	9571	gynaecological surgeon
Stratton, John Proudfoot	1830 -	1895	9946	surgeon and civil servant
Reynolds, Sir John Russell	1828 -	1896	11142	physician and neurologist
Thomas, Hugh Owen	1834 -	1891	11148	orthopaedic surgeon
West, Charles	1816 -	1898	11300	physician
Jago, James	1815 -	1893	11816	physician

Porter, Sir George Hornidge	1822- 1895	12772	surgeon
Johnson, Sir George	1818- 1896	14007	physician
Bristowe, John Syer	1827- 1895	16119	physician
Bennett, Sir James Risdon	1809- 1891	17441	physician
Sturges, Octavius	1833- 1894	18024	physician
Hicks, Henry	1837- 1899	18338	geologist and alienist
Down, John Langdon Haydon Langdon	1828- 1896	19947	physician and expert in mental science
Monro, Henry	1817- 1891	20752	physician specializing in the treatment
Bellew, Henry Walter	1834- 1892	20868	army medical officer
Marshall, John	1818- 1891	21359	surgeon and teacher of anatomy
Carter, Henry Vandyke	1831- 1897	21561	epidemiologist
Taylor, Michael Waistell	1824- 1892	22587	physician and antiquary
Carpenter, Alfred John	1825- 1892	23019	physician and propagandist for the cause of sewage framing
Mackenzie, Sir Morell	1837- 1892	23500	physician and laryngologist
Myers, Arthur Thomas	1851- 1894	28056	physician
Wood, John	1825- 1891	30585	surgeon
Owen, Sir Richard	1804- 1892	33201	comparative anatomist and palaeontologist
Tidy, Charles Meymott	1843- 1892	42914	sanitary and analytical chemist
Hewett, Sir Prescott Gardner	1812- 1891	45133	surgeon
Bucknill, Sir John Charles	1817- 1897	48274	psychiatrist
Sutherland, John	1808- 1891	54542	physician and promoter of sanitary science
Sharp, William	1805- 1896	54811	physician and homoeopathist
Wells, Sir Thomas Spencer	1818- 1897	56377	gynaecological surgeon
Roberts, Sir William	1830- 1899	73856	physician and physiologist
Paget, Sir James	1814- 1899	74861	surgeon
Humphry, Sir George Murray	1820- 1896	80199	surgeon
Walshe, Walter Hayle	1812- 1892	81634	physician
Erichsen, Sir John Eric	1818- 1896	89633	surgeon
Savory, Sir William Scovell	1826- 1895	93190	surgeon
Bowman, Sir William	1816- 1892	107607	ophthalmic surgeon and anatomist
Quain, Sir Richard	1816- 1898	118121	physician
Gull, Sir William Withey	1816- 1890	344022	physician
Jenner, Sir William	1815- 1898	385083	physician

Table S2: Doctors in the ODNB who died between 1990 and 1999, ranked by wealth.

	Death	Wealth at death (£)	<i>ODNB short description</i>
Turnbull, Sir Alexander Cuthbert	1990	3669	obstetrician and gynaecologist
Gregory, Roderic Alfred	1990	6506	physiologist
Widgery, David John Turner	1992	9740	polemicist and doctor
Dawes, Geoffrey Sharman	1996	14737	physiologist
Phillips, Charles Garrett	1994	44511	neurophysiologist
Fry, John	1994	44931	general practitioner and medical author
Baum, John David	1999	82202	paediatrician
Bowlby, Edward John Mostyn	1990	88776	psychiatrist
Evans, Sir Robert Charles	1995	94135	surgeon and mountaineer
Hall, Reginald	1994	97140	endocrinologist
Neil, Eric	1990	121730	physiologist
Vaughan, Dame Janet Maria	1993	125000	haematologist and radiobiologist
Kaushal, Baldev Sahai	1992	125087	general practitioner
Winstanley, Michael Platt, Baron	1993	165929	physician politician and broadcaster
Dick, George Williamson Auchinvole	1997	180000	pathologist and virologist
Burkitt, Denis Parsons	1993	187936	surgeon and geographical epidemiologist
Illingworth, Sir Charles Freder	1991	190286	surgeon
Harris, Sir Charles Herbert Stuart	1996	192909	virologist
Wayne, Sir Edward Johnson	1990	195884	physician
Wilson, Sir John Foster	1999	200000	international health administrator
Clark, David Stafford	1999	200000	psychiatrist
Hopkins, Harold Horace	1994	221417	physicist and endoscopist
Pitt, David Thomas, Baron	1994	224380	general practitioner and politician
Hardisty, Roger Michael	1997	263046	haematologist
Tizard, Sir John Peter Mills	1993	268438	paediatrician
Smithers, Sir David Waldron	1995	274133	radiotherapist
Porritt, Arthur Espie, Baron	1994	293041	surgeon and governor general of New Zealand
Smith, Arthur Norman Exton	1990	293332	geriatrician
Blaschko, Hugh	1993	304886	biochemist and pharmacologist
McMichael, Sir John	1993	313982	cardiologist
Barcroft, Henry	1998	362253	circulatory physiologist
Cameron, Sir James Clark	1991	376037	general practitioner and medical administrator
Stallworthy, Sir John Arthur	1993	383258	obstetrician and gynaecologist
Whitteridge, David	1994	394708	physiologist
Pugh, Lewis Griffith Cresswell	1994	454107	physiologist and mountaineer
Loutit, John Freeman	1992	478106	radiobiologist and haematologist
Paton, Sir William Drummond Macdonald	1993	483483	pharmacologist
Illingworth, Ronald Stanley	1990	532004	expert in child health
Creak, Eleanor Mildred	1993	569308	child psychiatrist
Feldberg, Wilhelm Siegmund	1993	592228	pharmacologist and physiologist
McCance, Robert Alexander	1993	598367	physician and research physiologist

Adrian, Richard Hume, Baron	1995	693202	physiologist
Barnes, Dame Alice Josephine Mary Taylor	1999	748681	obstetrician and gynaecologist
Harrison, Sir Richard John	1999	800537	anatomist and marine biologist
Pochin, Sir Edward Eric	1990	887372	physician and specialist in the dangers of ionizing radiation
Himsworth, Sir Harold Percival	1993	921679	physician
Gilchrist, Andrew Rae	1995	937910	physician and cardiologist
Fraser, Sir Ian James	1999	1348875	surgeon
Sinclair, Hugh Macdonald	1990	1388172	nutritionist
Rosen, Ismond	1996	1672796	psychoanalyst and sculptor